

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter, on the Commission's own motion,)	
regarding the regulatory reviews, revisions,)	
determinations, and/or approvals necessary for)	Case No. U-18265
UPPER PENINSULA POWER COMPANY to fully)	
comply with Public Act 295 of 2008, as amended by)	
Public Act 342 of 2016.)	
_____)	

At the February 22, 2018 meeting of the Michigan Public Service Commission in Lansing,
Michigan.

PRESENT: Hon. Sally A. Talberg, Chairman
Hon. Norman J. Saari, Commissioner
Hon. Rachael A. Eubanks, Commissioner

ORDER APPROVING SETTLEMENT AGREEMENT

On March 28, 2017, the Commission opened this docket and directed Upper Peninsula Power Company (UPPCo) to file an energy waste reduction plan (EWRP) for the 2018 and 2019 calendar years. On July 3, 2017, UPPCo filed an application, with supporting testimony and exhibits, requesting approval of its EWRP for the 2018 and 2019 calendar years.

A prehearing conference was held on August 10, 2017, before Administrative Law Judge Mark D. Eyster. UPPCo and the Commission Staff participated in the proceeding. Subsequently, the parties filed a settlement agreement resolving all issues in the case.

The Commission has reviewed the settlement agreement and finds that the public interest is adequately represented by the parties who entered into the settlement agreement. The Commission

further finds that the settlement agreement is in the public interest, represents a fair and reasonable resolution of the proceeding, and should be approved.

THEREFORE, IT IS ORDERED, that:

A. The settlement agreement, attached as Exhibit A, is approved.

B. Upper Peninsula Power Company's energy waste reduction plan, as modified by the settlement agreement, is approved as in compliance with 2008 PA 295, as amended by 2016 PA 342. Upper Peninsula Power Company's energy waste reduction surcharges, set forth in Attachment 6, are approved effective for the March 2018 billing period.

C. Within six days of the date of this order, Upper Peninsula Power Company shall file a tariff sheet substantially similar to that contained in Attachment 6 to the settlement agreement.

The Commission reserves jurisdiction and may issue further orders as necessary.

Any party desiring to appeal this order must do so in the appropriate court within 30 days after issuance and notice of this order, pursuant to MCL 462.26. To comply with the Michigan Rules of Court's requirement to notify the Commission of an appeal, appellants shall send required notices to both the Commission's Executive Secretary and to the Commission's Legal Counsel.

Electronic notifications should be sent to the Executive Secretary at mpscedockets@michigan.gov and to the Michigan Department of the Attorney General - Public Service Division at pungpl@michigan.gov. In lieu of electronic submissions, paper copies of such notifications may be sent to the Executive Secretary and the Attorney General - Public Service Division at 7109 W. Saginaw Hwy., Lansing, MI 48917.

MICHIGAN PUBLIC SERVICE COMMISSION

Sally A. Talberg, Chairman

Norman J. Saari, Commissioner

Rachael A. Eubanks, Commissioner

By its action of February 22, 2018.

Kavita Kale, Executive Secretary

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter, on the Commission's own motion,)	
regarding the regulatory reviews, revisions,)	Case No. U-18265
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UPPER PENINSULA POWER COMPANY to)	
fully comply with Public Act 295 of 2008, as)	
amended by Public Act 342 of 2016.)	
_____)	

SETTLEMENT AGREEMENT

Pursuant to Section 78 of the Administrative Procedures Act of 1969, as amended, MCL 24.278 ("APA") and Rule 431 of the Michigan Administrative Hearing System's Administrative Rules, R 792.10431, Upper Peninsula Power Company ("UPPCO" or the "Company") and the Commission Staff ("Staff") agree as follows:

1. On March 28, 2017, the Michigan Public Service Commission ("Commission") issued its Order opening the docket in this matter and directing the Company to file its energy waste reduction ("EWR") plan for the 2018 and 2019 calendar years.

2. On July 3, 2017, the Company filed its application and supporting testimony and exhibits of Gradon Haehnel and Richard A. Morgan. This filing reflected UPPCO's plan for providing EWR programs to its customers (including low income), explaining how those programs will be administered, specifying the funding necessary for its plan and how the EWR costs will be recovered.

3. On July 10, 2017, the Commission's Executive Secretary issued the Notice of Hearing in this proceeding directing the Company to mail a copy of the Notice of Hearing to all cities, incorporated villages, townships and counties in its service area, as well as to interveners in Case No. U-17775. Further, the Company was directed to publish the Notice of Hearing in daily newspapers of general circulation throughout its service area. Consistent with these directives, on July 26, 2017, the Company electronically filed its affidavits of mailing and proofs of publication.

4. On August 10, 2017, Administrative Law Judge ("ALJ") Mark D. Eyster conducted a prehearing conference. The Company and Staff participated in the proceedings. There were no intervenors.

5. On October 12, 2017, Staff filed the testimony and exhibits of Karen M. Gould and David S. Walker, opposing UPPCO's EWR plan.

6. On November 13, 2017, UPPCO filed the rebuttal testimony and exhibits of Andrew H. McNeally and the revised exhibits of Mr. Haehnel.

7. Subsequently, the parties have had extensive discussions, and have agreed to enter into this Settlement Agreement. In view of the foregoing, and pursuant to Section 78 of the APA, UPPCO and Staff hereby stipulate and agree as follows:

a. The Commission should accept UPPCO's revised EWR plan, attached hereto as Attachment 1.

b. As reflected in Attachment 2 hereto, the revised EWR plan cost summary and budget for 2018 is \$2,143,966, and for 2019 is \$2,162,452. With the application of pending carry-forward dollars, assumed here to be \$550,000 for 2018 and 2019, as reflected in Attachment 3, along with UPPCO now self-administrating the revised EWR Plan, the 2018 and

2019 EWR Plan collections are \$1,593,966 and \$1,612,452, respectively. Actual carry-forward dollars, once determined, in excess of the assumed \$550,000 for 2018 and 2019 will be incorporated in UPPCO's EWR revenues and considered the Company's beginning balance for 2018 and 2019.

c. The revised EWR plan and budget reflect energy savings goals that support an emphasis of investment in long life measures and low income spending. Pursuant to Staff's desire to remove the market transformation and lifetime multipliers¹, UPPCO's revised EWR plan accommodates Staff's request. The revised savings goals and revised budgets within the revised EWR plan are reflected on Attachment 4.

d. As a result of Staff's position on behavioral savings programs, UPPCO will agree to limit the energy savings for its Home Energy Reports program. UPPCO commits to limiting the savings achieved for the Home Energy Reports program so they shall not exceed 25% for 2018 and 20% for 2019 of the total residential portfolio savings reported for those years². UPPCO agrees that, in future EWR plans and reconciliations, cost benefit calculations for Home Energy Reports will include expenditures specific to providing such reports, such as annual evaluation, information technology, and customer support services.

e. The EWR plan programs are designed and planned to be implemented with spending targets by customer class. If, however, it appears that one program within a

¹ In Case No. U-18260, the final order determining compliance with Public Act 295 of 2008, as amended by Public Act 342 of 2016, it states the following: "The Commission also finds that multipliers applied to MEMD savings values for various purposes *may* no longer be appropriate, because while some may be beneficial in promoting energy efficiency (e.g., by allowing for more cost effective promotion of high-cost or underutilized measures), these "bonus" savings are not suitable for inclusion in the upcoming IRPs, which will model and rely on actual energy savings." As the order in Case No. U-18260 did not preclude multipliers, UPPCO's original filed plan included market transformation and lifetime multipliers.

² It should be noted that UPPCO's original filed plan targeted energy savings of 1.17% in 2018 and 1.14% in 2019. UPPCO's revised EWR plan, which accounts for the exclusion of market transformation and lifetime multipliers to address Staff's request, also reflects the inclusion of the Home Energy Reports program, targets energy savings of 1.14% in 2018 and 1.13% in 2019. The impact of complete exclusion of the Home Energy Reports program on the revised EWR plan would result in targeted energy savings of 1.05% in 2018 and 1.04% in 2019.

customer class will have funds remaining at the end of the year and that other programs within that customer class have the capacity to use additional funds within the plan year, up to 30% can be reallocated between programs within customer classes.

f. UPPCO has contracted with Michigan Community Action Agency Association and CleaResult. UPPCO will continue to collaborate with Efficiency UNITED for the Company's program design, implementation, and Evaluation, Measurement and Verification valuation.

g. Any funds from the prior year that UPPCO has not expended will carry-over into the subsequent year.

h. The Commission should approve the EWR plan financial incentive mechanism included as Attachment 5, pursuant to Section 75 of 2008 PA 295, as amended by 2016 PA 342.

i. The Commission should determine that the EWR plan attached hereto as Attachment 1 and supported by Attachments 2 and 5 is reasonable and prudent, and that it meets all of Act 295's requirements as amended by 2016 PA 342 and the Order.

j. The Commission should approve the surcharges on the tariff sheet attached as Attachment 6 effective on the first full billing month immediately following the issuance of a Commission order approving this settlement agreement.

k. The Company shall continue to file reconciliations each calendar year for the preceding calendar year's revenues and costs by March 31. The Company shall file with the Commission an application, including supporting testimony and exhibits which includes, but is not limited to: (i) reconciling for the period covered, the revenue billed; with (a) actual costs for purposes of determining interest on any over-recoveries and under-recoveries; and (b) the

levelized revenue requirements, for purposes of determining revised energy waste reduction surcharges; (ii) calculating revenue over-recovery or under-recovery in total and by each major customer class; (iii) including interest at the Company's short-term borrowing rate on any over-recoveries and under-recoveries; and (iv) if appropriate, proposing revised energy waste reduction surcharges, which shall include an amount designed to true-up reconciliation amounts.

8. UPPCO will agree to send monthly reports to MPSC Staff to track EWR plan versus actual results.

9. All of the signatories are of the opinion that this settlement agreement is reasonable, prudent and will aid in the expeditious conclusion of this case.

10. This settlement agreement is entered into for the sole and express purpose of reaching a compromise among the parties. All offers of settlement and discussions relating to this settlement are considered privileged under MRE 408. If the Commission approves this settlement agreement without modification, neither the parties to the settlement nor the Commission shall make any references to, or use this settlement agreement or the order approving it, as a reason, authority, rationale or example for taking any action or position or making any subsequent decision in any other case or proceeding; provided, however, such references may be made to enforce or implement the provisions of this settlement agreement and the order approving it.

11. Pursuant to Rule 431 of the Michigan Administrative Hearing System's Administrative Rules, R 792.10431(6) the parties agree any order approving this settlement agreement shall not establish precedent for future proceedings and shall not be used as such. This settlement agreement is based on the facts and circumstances of this case and is intended as the final disposition of Case No. U-18265 only. If the Commission approves this settlement

agreement, without modification, the undersigned parties agree not to appeal, challenge or otherwise contest the Commission order approving this settlement agreement only. Except as otherwise set forth herein, the parties agree and understand that this settlement agreement does not limit any party's right to take new and/or different positions in the next EWR plan.

12. This settlement agreement is not severable. Each provision of this settlement agreement is dependent upon all other provisions of this settlement agreement. Failure to comply with any provision of this settlement agreement constitutes failure to comply with the entire settlement agreement. If the Commission rejects or modifies this settlement agreement or any provision of this settlement agreement, this settlement shall be deemed to be withdrawn, shall not constitute any part of the record in this proceeding or be used for any other purpose, and shall not operate to prejudice the pre-negotiation positions of any party.

13. The parties agree to waive Section 81 of the Administrative Procedures Act of 1969 (MCL 24.281), as it applies to the issues in this proceeding, if the Commission approves this settlement agreement without modification.

UPPER PENINSULA POWER COMPANY

Dated: February 7, 2018

By: **Sherri A. Wellman**
Digitally signed by: Sherri A. Wellman
DN: CN = Sherri A. Wellman C = AD
O = MillerCanfield
Date: 2018.02.07 13:27:05 -05'00'

Its Attorney
Sherri A. Wellman (P38989)
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MICHIGAN PUBLIC SERVICE COMMISSION STAFF

Dated: February 7, 2018

By: **Amit T. Singh**
Digitally signed by Amit T. Singh
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Public Service Division,
email=singA9@michigan.gov, c=US
Date: 2018.02.08 08:26:18 -05'00'

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Upper Peninsula Power Company

Energy Waste Reduction Plan

2018-2019

Program Descriptions

UPPCO Proposed Energy Waste Reduction Programs

The Upper Peninsula Power Company (UPPCO) has been a part of the Efficiency United program since the passage of SB295. With this 2018-2019 plan, UPPCO proposes to take the EWR effort in-house to customize programs to its unique territory and reduce overall costs while still reaching goals. The proposed programs follow the same overall framework of the existing programs. Incentives and the measure mix have been adjusted to meet the UPPCO market and some additional delivery enhancements should help improve participation cost effectively. The proposed programs consist of the following.

Residential Programs:

- Income Qualified Services
- Energy Star Lighting and Appliances
- Home Performance
- Home Energy Reports
- Appliance Recycling

Business Programs:

- Business Prescriptive
- Business Custom
- Small Business Direct Install

UPPCO will also continue its education and pilot programs as outlined in the EWR law and guidelines.

The majority of UPPCO customers do not heat with electricity. UPPCO will focus on the electric heat market to help those customers improve their structures and reduce costs. For customers with natural gas heating, UPPCO will work with their gas distribution company to seek joint programs where applicable.

One of the goals of UPPCO is to grow local skills and jobs as part of the EWR efforts. To accomplish this, UPPCO will build upon the relationships established by Efficiency United with local market providers and trade allies. Emphasis will be placed not only on program participation, but on educating these allies on new technologies and appropriate application of known efficient technologies.

Financing is an area that UPPCO is interested in exploring further. During the plan period, UPPCO will review the potential for on-bill and other financing mechanisms for consideration in future plan filings.

Program Element	Residential Income Qualified Services
Objective	<ul style="list-style-type: none"> • Provide recommendations, financial assistance and education to customers with limited income to assist them in reducing their electric energy use and managing their utility costs. • Coordinate income qualified services with local weatherization providers and other agencies in order to provide comprehensive assistance at lower administrative costs.
Target Market	<ul style="list-style-type: none"> • Residential customers whose income is estimated to be below 200% of poverty level. Services will be targeted to diverse segments of the population including those living in single family and multi-family buildings, homeowners and renters. • Residential electric heat customers that are in arrears or at risk of falling behind on bill payments will be the target market for the home energy assessments. These include income-eligible customers who have or may receive shut off notices and those that are eligible for the Winter Protection Plan.
Program Duration	Services for customers with limited income will be an ongoing element of the program portfolio.
Program Description	UPPCO will help income qualified customers get access to existing programs that can assist them and if appropriate, provide a home energy assessment that includes education and the direct installation of efficiency measures to assist customers in reducing their energy use. UPPCO will partner with other agencies and utilities to provide customers with coordinated closely related programs when applicable.
Eligible Measures	Cost effective electric measures that will be permissible for this program include replacement of inefficient lighting/equipment with ENERGY STAR labeled products including LED's, heat pump water heaters, attic insulation and infiltration reduction for electric heat customers and ECM heating water circulator pumps.
Implementation Strategy	The utility will work with an implementation contractor to conduct the home energy assessments and install measures in homes and multifamily properties. This program will be coordinated with local agencies to subsidize the delivery of the program when possible.
Marketing Strategy	<p>Marketing will be closely coordinated with the local weatherization agencies and the UPPCO's implementation contractor. Key elements of the marketing strategy include:</p> <ul style="list-style-type: none"> • Targeted outreach through local agencies • Presentations in the community • UPPCO website and newsletter • Press releases • Targeting of multi-family rental property owners
EM&V Requirements	Evaluation activities for the residential low-income program will focus on verification and assessment of electric energy impacts for the installed measures.

Estimated Participation	Participation (in Units of Installed Measures)		
	2018	2019	
	1,711	1,711	
Estimated Budget	Annual Budgets		
	2018	2019	
	\$267,320	\$272,666	
Savings Targets	Energy Savings (Net Annual kWh)		
	2018	2019	
	199,782	199,782	

Program Element	Residential Energy Star Products
Objective	Produce long-term annual energy savings in the residential sector by promoting ENERGY STAR rated high-efficiency lighting and appliances
Target Market	Residential customers seeking to purchase and install new lighting products, dehumidifiers, clothes washers and dryers, TVs, and air purifiers. Residential rental property owners and customers living in rental properties are also eligible.
Program Duration	Ongoing element of the program portfolio.
Program Description	<p>The Residential ENERGY STAR program will leverage the nationally recognized ENERGY STAR brand, when applicable, to promote products that can reduce electric energy use. Energy efficient choices can save families about a third on their energy bill, without sacrificing features, style or comfort. The ENERGY STAR brand helps consumers make the most energy efficient choice.</p> <p>The lighting efforts in the program will provide opportunities for customers to use efficient ENERGY STAR lighting products by receiving the products directly and/or by providing upstream market incentives and market support through retailers to build market share and usage of ENERGY STAR lighting products. The program targets the purchase of lighting products through in-store promotion as well as special sales events.</p> <p>Appliances efforts will focus on retail sales of clothes washers and dryers, TVs, air purifiers and dehumidifiers. The program will work through local appliance retail stores and provide incentives to customers to encourage them to replace their older, inefficient equipment with high-efficiency units.</p>
Eligible Measures	<p>Eligible measures include:</p> <ul style="list-style-type: none"> • ENERGY STAR lighting products (LEDs and LED Fixtures, and Ceiling Fans). • ENERGY STAR TVs • ENERGY STAR Dehumidifiers • ENERGY STAR Clothes Washers and Dryers (with moisture sensor) • ENERGY STAR Air Purifier
Implementation Strategy	<ul style="list-style-type: none"> • Lighting strategies. The Lighting program employs multiple delivery strategies, including upstream, midstream, and downstream offers. The upstream offers use manufacturers to apply incentives that are passed on to customers; midstream offers use distributors, retailers, or contractors; downstream offers provide incentives and/or products directly to the end-use customer. • Retailer recruitment, education and outreach. The utility's implementation contractor will utilize a field representative to facilitate the recruitment of local appliance retailers to participate in the program.

	<ul style="list-style-type: none">• Application processing: The utility's implementation contractor will coordinate processing of all incentives and rebate applications.												
Marketing Strategy	<p>High efficient lighting and appliances will be marketed through local retailers. All marketing materials will carry a strong consumer education message emphasizing the cost of operating older, inefficient equipment and the benefits of early replacement with ENERGY STAR qualified models (lifetime dollar savings, energy savings, lower noise, etc.). Marketing materials will leverage the ENERGY STAR brand, which enjoys a high level of consumer recognition and favorable associations.</p> <p>Key elements of the marketing strategy include:</p> <ul style="list-style-type: none">• Direct consumer marketing through the UPPCO website and newsletter• Point-of-purchase displays• Cooperative advertising with retailers												
EM&V Requirements	Savings values are based on documented values from the Michigan Energy Measures Database. Evaluation activity will focus on verification of installation and estimates of deemed savings.												
Estimated Participation	<table><tr><th colspan="3">Participation (in Units of Installed Measures)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>Lighting – 35,000</td><td>Lighting – 35,000</td><td></td></tr><tr><td>All Other - 405</td><td>All Other - 405</td><td></td></tr></table>	Participation (in Units of Installed Measures)			2018	2019		Lighting – 35,000	Lighting – 35,000		All Other - 405	All Other - 405	
Participation (in Units of Installed Measures)													
2018	2019												
Lighting – 35,000	Lighting – 35,000												
All Other - 405	All Other - 405												
Estimated Budget	<table><tr><th colspan="3">Annual Budgets</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>\$144,958</td><td>\$147,858</td><td></td></tr></table>	Annual Budgets			2018	2019		\$144,958	\$147,858				
Annual Budgets													
2018	2019												
\$144,958	\$147,858												
Savings Targets	<table><tr><th colspan="3">Energy Savings (Net Annual kWh)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>852,862</td><td>852,862</td><td></td></tr></table>	Energy Savings (Net Annual kWh)			2018	2019		852,862	852,862				
Energy Savings (Net Annual kWh)													
2018	2019												
852,862	852,862												

Program Element	Home Performance
Objective	Produce long-term coincident peak demand reduction and annual energy savings in the residential sector by promoting high-efficiency HVAC equipment.
Target Market	Residential customers seeking to purchase and install new air conditioning units, furnaces with ECM motors, heat pumps, smart thermostats, room air conditioners, electric water heaters and pumps. Residential rental property owners and customers living in rental properties are also eligible.
Program Duration	Ongoing element of the program portfolio.
Program Description	<p>The Home Performance HVAC program will leverage the nationally-recognized ENERGY STAR brand, when applicable, to promote products that can reduce electric energy use. Energy efficient choices can save families about a third on their energy bill, without sacrificing features, style or comfort. The ENERGY STAR brand helps consumers make the most energy efficient choice.</p> <p>The program will focus on contractor-installed heating, cooling, and water-heating equipment and pump installers. For electric heat customers, walk through audits will be offered and include direct install lighting and water heating measures.</p> <p>The High-Efficiency HVAC program will promote premium efficiency furnaces that have high-efficiency motors (electrically commutated motors – ECMs). ECM motors save electric energy during the heating and cooling seasons. Since the primary type of heating system in the utility's service area is gas forced air, this program will closely coordinate with the local natural gas providers so that incentives can be coordinated on furnaces that have the high-efficiency motors. Incentives for the installation of setback thermostats will also be available.</p> <p>Although federal efficiency standards for central air-conditioning have recently increased in some states, there are still opportunities to promote units that exceed the current standards in Michigan and thus achieve additional energy savings. The program will provide incentives for high-efficiency central air-conditioners with an SEER rating ≥ 15. The program will also offer incentives for ENERGY STAR heat pump water heaters, air-source heat pumps, ground-source heat pumps, and ductless heat pumps.</p>
Eligible Measures	<p>Eligible measures include:</p> <ul style="list-style-type: none"> • Central Air Conditioners • ECM Motors on High Efficiency Furnaces • Air-Source, Ductless Heat Pumps • Ground source HP

	<ul style="list-style-type: none">Heat Pump Water Heaters (ENERGY STAR)Setback and Wi-Fi ThermostatsECM Heating Water Circulator PumpDirect Install measures including ENERGY STAR lighting and water efficiency measures for electric heat customers									
Implementation Strategy	<ul style="list-style-type: none">Contractor recruitment, education and outreach. The utility's implementation contractor will utilize a field representative to facilitate the recruitment of local HVAC/plumbing contractors to participate in the program.Planning coordination with local natural gas provider. The utility's implementation contractor will work closely with the natural gas utility to coordinate incentive levels, eligibility requirements, marketing materials, and contractor outreach.Application processing: The utility's implementation contractor will coordinate processing of all rebate applications.Provide complete website presence. The program will be comprehensively outlined on the utility website. Customers and market providers will also be able to review qualifying measures, download incentive applications, and complete applications via an online portal.									
Marketing Strategy	<p>The HVAC and water heater components of the program will be primarily marketed through local contractors, the most direct influencers of customer purchase decisions. Contractors will receive training and educational materials to share with their customers.</p> <p>All marketing materials will carry a strong consumer education message emphasizing the cost of operating older, inefficient appliances and the benefits of early replacement with ENERGY STAR qualified models (lifetime dollar savings, energy savings, lower noise, etc.). Marketing materials will leverage the ENERGY STAR brand, which enjoys a high level of consumer recognition and favorable associations.</p> <p>Key elements of the marketing strategy include:</p> <ul style="list-style-type: none">Direct consumer marketing through the UPPCO website and newsletterPoint-of-purchase displaysCooperative advertising with contractors									
EM&V Requirements	Savings values are based on documented values from the Michigan Energy Measures Database. Evaluation activity will focus on verification of installation and estimates of deemed savings.									
Estimated Participation	<table><tr><th colspan="3">Participation (in Units of Installed Measures)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>2,758</td><td>2,758</td><td></td></tr></table>	Participation (in Units of Installed Measures)			2018	2019		2,758	2,758	
Participation (in Units of Installed Measures)										
2018	2019									
2,758	2,758									
Estimated Budget	<table><tr><th>Annual Budgets</th></tr><tr><td></td></tr></table>	Annual Budgets								
Annual Budgets										

	2018	2019	
	\$244,730	\$249,624	
<i>Savings Targets</i>	Energy Savings (Net Annual kWh)		
	2018	2019	
	513,496	513,496	

Program Element	Home Energy Reports		
Objective	Produce coincident peak demand reduction and annual energy savings in the residential sector by educating customers on their energy use, encouraging behavior changes to save energy and to promote other residential programs.		
Target Market	The initial market will be residential customers with electric heating. The program will be offered on a limited basis for the first two years to better understand impacts and costs.		
Program Duration	This program will be revisited after the 2018-2019 program years to determine whether it will it is cost effective and provides desired results.		
Program Description	Customers often want to save energy but do not know what to do. They also don't understand how their energy use relates to their own behavior and equipment use in their home. To educate these customers and help guide them on potential improvements and changes, monthly reports will be provided to participating customers disaggregating their energy use by end use, providing comparisons to others with similar homes and providing recommendations on how energy can be saved through changed customer behavior and equipment/building improvements. Customers will also be made aware of UPPCO's other Residential efficiency program offerings		
Eligible Measures	The focus of the program is on behavior changes customers can make to reduce their energy consumption such as thermostat adjustments.		
Implementation Strategy	An implementation company that specializes in providing this service will implement this program. Participating customers will be acquired from UPPCO's electric heat customer list. Customers will agree to participate and receive the monthly reports. Over 400,000 customer contacts/communication events via personalized video messages, weather related communications, energy advise, and customer driven special interest messages are expected over the two operating years.		
Marketing Strategy	Direct marketing will be used to sign up the initial program participants. All monthly reports will focus on customer awareness of their energy use and education on how to make changes that will reduce the energy use of the home. Comparisons will be used as well as behavior reinforcements to encourage ongoing participation in the program and ongoing behavior change. Other UPPCO programs that are available to these customers will also be promoted through the monthly reports.		
EM&V Requirements	Deemed savings values were based on documented values from the Michigan Energy Measures Database (MEMD). Evaluation will focus on billing analysis for participants pre and post participation, as well as a comparison to a control group.		
Estimated Participation	Participation (in Units of Installed Measures)		
	2018	2019	
	12,000	12,000	

<i>Estimated Budget</i>	Annual Budgets			
	2018	2019		
	\$41,250	\$41,250		
<i>Savings Targets</i>	Energy Savings (Net Annual kWh)			
	2018	2019		
	453,600	453,600		

Program Element	Appliance Turn-In and Recycling
Objective	Produce long-term coincident peak demand reduction and annual energy savings in the residential sector by removing operable, inefficient refrigerators, freezers, dehumidifiers, and room air conditioners from the power grid and recycling them in an environmentally safe manner.
Target Market	Residential customers who are currently operating older, inefficient refrigerators, freezers, dehumidifiers, and/or room air conditioners either as primary or secondary units.
Program Duration	Ongoing element of the program portfolio.
Program Description	The average household replaces a refrigerator every ten years. However, many of the refrigerators being replaced are still functioning, so they often become backup appliances – energy guzzlers in basements and garages – or sold in a used-market. The Turn-In Program targets those “second” refrigerators and freezers, as well as encouraging the early retirement of older inefficient appliances that are still operable. The program provides the dual benefit of cutting energy consumption and keeping the appliances out of the used-market.
Eligible Measures	Eligible measures include refrigerators, freezers, dehumidifiers, and room air conditioners. Units must be operable at the time of disposal.
Implementation Strategy	<ul style="list-style-type: none"> • Turn-key appliance pick-up/recycling: The utility will work with a qualified recycling service subcontractor to provide comprehensive, turn-key implementation services from eligibility verification and scheduling of pick-ups to proper disposal and recycling of turned-in appliances. • Pick Up Requirements: dehumidifiers and room air conditioners will be picked up only when a refrigerator or freezer is picked up at the same house. All must be in working order at the time of pick up. Refrigerators and freezers can be picked up independently. • Incentive coordination and processing: The utility will coordinate prompt processing of incentive payments.
Marketing Strategy	<p>All marketing materials will carry a strong consumer education message emphasizing the cost of operating older, inefficient appliances, the benefits of early replacement with ENERGY STAR qualified models, and the importance of proper disposal and recycling of older units. Key elements of the marketing strategy include:</p> <ul style="list-style-type: none"> • Direct consumer marketing through UPPCO’s website, newsletters and community events • Press releases • Point-of-purchase displays • Cooperative advertising with retailers • Posters in area businesses

<i>EM&V Requirements</i>	Deemed savings values were based on documented values from the Michigan Energy Measures Database (MEMD). Evaluation activity will focus on verification of recycled units and estimates of deemed savings.											
<i>Estimated Participation</i>	<table><tr><th colspan="3">Participation (in Units of Installed Measures)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>375</td><td>188</td><td></td></tr></table>			Participation (in Units of Installed Measures)			2018	2019		375	188	
Participation (in Units of Installed Measures)												
2018	2019											
375	188											
<i>Estimated Budget</i>	<table><tr><th colspan="3">Annual Budgets</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>\$76,325</td><td>\$32,625</td><td></td></tr></table>			Annual Budgets			2018	2019		\$76,325	\$32,625	
Annual Budgets												
2018	2019											
\$76,325	\$32,625											
<i>Savings Targets</i>	<table><tr><th colspan="3">Energy Savings (Net Annual kWh)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>310,460</td><td>155,230</td><td></td></tr></table>			Energy Savings (Net Annual kWh)			2018	2019		310,460	155,230	
Energy Savings (Net Annual kWh)												
2018	2019											
310,460	155,230											

Program Element	Business Prescriptive
Objective	<p>There are two primary objectives for the Business Prescriptive Program:</p> <ol style="list-style-type: none"> 1) Increase the market share of a targeted group of commercial high-efficiency electric technologies sold through market channels. 2) Increase the installation rate of a targeted group of high-efficiency electric technologies in commercial facilities by businesses that would not have done so in the absence of the program.
Target Market	<p>All business customers except for Self-Direct Customers are eligible to participate in the Prescriptive program when they purchase qualifying equipment. The program will utilize a targeted outreach strategy to influence specific markets.</p> <ol style="list-style-type: none"> 1) Market Providers (wholesalers, distributors, engineering and architectural firms, developers, and builders) that will promote the qualifying technologies 2) High-impact/high-need customer sectors (such as schools, municipal buildings, hospitals, food service, and hospitality)
Program Duration	Ongoing element of the program portfolio.
Program Description	<p>The Prescriptive program will provide incentives for the purchase and installation of specific high efficiency technologies. The program will affect the purchase and installation of high-efficiency technologies through a combination of market push and pull strategies that stimulate market demand while simultaneously increasing market provider investment in stocking and promoting them.</p> <p>The program will increase demand of efficient technologies by educating business customers about the energy and money saving benefits associated with efficient products and equipping market providers to communicate those benefits directly to their customers. To address the first-cost barrier for customers, the program will utilize financial incentives (i.e. cash-back mail-in rebates) averaging 40% of the incremental cost of purchasing qualifying technologies.</p> <p>The program will stimulate market provider investment in stocking and promoting efficient products through a targeted outreach effort. The implementation contractor will employ field representatives to proactively train and equip market providers to convey the energy and money saving benefits to customers. Further, the existence of cash-back incentives will elevate efficiency to a competitive issue that will naturally motivate market providers to stock and promote targeted products.</p>
Eligible Measures	Initial eligible measures are listed in Table 1. Note that eligible measures may change over time as markets and technologies change.
Implementation Strategy	<ul style="list-style-type: none"> • Outreach to market providers. The implementation contractor will inform and recruit participating market providers/trade allies. Outreach will include orientation meetings and conducting in-person visits aimed at training and equipping market providers to communicate program information to customers. Training will be provided to the market providers on new technologies and the appropriate application of those technologies.

	<p>The implementation contractor will ensure that market providers have an updated stock of program materials. Key market providers that will be targeted include:</p> <ul style="list-style-type: none"> • Lighting distributors, wholesalers, • HVAC distributors and retail contractors • Motors/compressed air vendors • Food service equipment distributors and retailers • Engineering and Architectural firms • Developers and Builders in the commercial market <ul style="list-style-type: none"> • Outreach to targeted customers. The program staff will personally contact energy managers and decision makers within the targeted customer sectors. They will assist business customers in determining the energy and cost savings benefits from using the prescriptive incentives for new high efficiency equipment in their operations. The UPPCO business account representatives will assist with outreach within the course of their regular contacts with business customers. • Energy Assessments. The implementation contractor will provide energy assessments to eligible customers. Energy assessments will include a walk through analysis by the implementation contractor's Energy Advisor and a report detailing recommended next steps and estimated energy savings. The assessments will drive customers to participate in the mail-in incentive programs.
Marketing Strategy	<p>The Business Prescriptive Program will employ the following marketing strategies:</p> <ul style="list-style-type: none"> • Engage market providers/trade allies. Outreach and training will be provided to a targeted group of providers that have business motivations for promoting incentives to their customers. • Outreach to targeted customers. The implementation contractor will work closely with UPPCO to identify and conduct face-to-face meetings with key end-use customers to recruit their participation. The contractor will target decision makers within the customer's organization including: energy managers, facility managers, financial and operations managers, chief engineer and facility/property managers, maintenance supervisors, and building operators. Energy assessments will be offered to eligible customers to further encourage participation. • Outreach to key influencers. The implementation contractor's energy advisor(s) will work to generate awareness of the program through presentations and seminars with appropriate trade associations (ASHRAE, BOMA, school administrators, etc.). • Provide website presence. The program will be comprehensively outlined on the utility website. Customers and market providers will be able to review qualifying measures and download incentive applications via an online portal.
EM&V Requirements	<p>The utility's implementation contractor will be responsible for implementing the following types of measurement and verification activities to facilitate the utility's third-party evaluation work:</p> <ul style="list-style-type: none"> • Collect and track all participating customers, measure installations, and incentive data. • In the incentive process, verify that each product on which incentives are paid meets the prescribed efficiency standards for the incentive. • Conduct on-site inspections of 2% to 5% of equipment for which customers receive incentives to verify that products were installed and that the model and serial numbers match those provided on the incentive claim. Any inconsistencies will be researched and the resolution recorded. Market providers associated with inconsistencies will receive follow up inspections on projects in which they are associated.

<i>Estimated Participation</i>	Estimated Participation (in Units of Installed Measures)		
	2018	2019	
	49,500	49,629	
<i>Estimated Budget</i>	Annual Budgets		
	2018	2019	
	\$257,441	\$264,299	
<i>Savings Targets</i>	Energy Savings (Net Annual kWh)		
	2018	2019	
	2,497,673	2,498,128	

Program Element	Business Custom
Objective	<p>There are two primary objectives for the Business Custom Program:</p> <ol style="list-style-type: none"> 1) Increase the market share high-efficiency electric technologies sold through market channels. 2) Affect the installation of site-specific and unique energy efficiency technologies and process improvements (that do not fit the parameters of the prescriptive incentive offerings) by business customers that would not have done so in the absence of the program.
Target Market	<p>All business customers except for Self-Direct Customers are eligible to participate in the Custom program when they purchase and install cost effective energy efficiency equipment. The program will utilize a targeted outreach strategy to influence specific markets.</p> <ol style="list-style-type: none"> 1) Market Providers (wholesalers, distributors, engineering and architectural firms, developers, and builders) that will promote the qualifying technologies 2) High-impact/high-need customers (such as industrial customers and others that use unique processes or equipment that are not covered by the Prescriptive program)
Program Duration	Ongoing element of the program portfolio.
Program Description	<p>The Business Custom program helps customers and market providers identify more complex energy savings projects, analyze the economics of each project, and complete a customized incentive grant application. Over the long term, the custom solutions approach will allow the utility to develop and enhance the assistance they can provide to businesses with unique opportunities – including industrial process improvements, emerging technologies, and new facility design and/or modernization. To address the first-cost barrier for customers, the program will utilize financial incentives based on energy and demand savings from the cost effective high efficiency technologies. Initial incentives will be \$0.10 per first year kWh saved. Incentives will change over time if needed to address market response and goal attainment.</p> <p>The program will affect the purchase and installation of unique high-efficiency technologies through a combination of market push and pull strategies that stimulate market demand while simultaneously increasing market provider investment in stocking and promoting these unique technologies.</p> <p>The program will increase market demand by educating business customers about the energy and money saving benefits associated with efficient products and equipping market providers to communicate those benefits directly to their customers.</p> <p>The implementation contractor will employ field representatives to proactively train and equip market providers to convey the energy and money saving benefits to customers.</p> <p>The Custom program will also include a new construction/renovation component that will assist customers in specifying and installing unique high efficiency measures and establishing effective commissioning on the long-term performance of the building.</p>

Eligible Measures	Unique measures, innovative technologies and new processes that cost effectively save energy are eligible for the Custom program. Savings will be based on calculated energy savings pre and post installation. Incentives will be paid only after installation and on-site verification of the installation.
Implementation Strategy	<ul style="list-style-type: none"> • Outreach to market providers. The implementation contractor will inform and recruit participating market providers. Outreach will include orientation meetings and conducting in-person visits aimed at training and equipping market providers to communicate program information to customers. The Contractor will ensure that providers have an updated stock of program materials. Key market providers that will be targeted include: <ul style="list-style-type: none"> • Innovative technologies and solutions from: <ul style="list-style-type: none"> ○ Lighting distributors, wholesalers, ○ HVAC distributors and retail contractors ○ Motors/compressed air vendors ○ Food service equipment distributors and retailers • Engineering and architectural firms • Developers and builders in the commercial market • Outreach to targeted customers. The program staff will personally contact energy managers and decision makers within the targeted customer sectors. They will assist business customers in determining opportunities for the Custom program for their operations. The UPPCO business account representatives will assist with outreach within the course of their regular contacts with business customers. • Energy Assessments. The implementation contractor will provide energy assessments to eligible customers. Energy assessments will include a walk through analysis by the implementation contractor's Energy Advisor and a report detailing recommended next steps for installing innovative technologies or new processes.
Marketing Strategy	<p>The Custom program will employ the following marketing strategies:</p> <ul style="list-style-type: none"> • Incentives to Customers. Incentives will be per annual kWh reduced based on engineering estimates reviewed by the program and the evaluator (for larger projects). • Engage market providers. Outreach and training will be provided to a targeted group of providers that have business motivations for promoting cost effective high efficiency innovative technologies or processes to their customers. • Outreach to targeted customers. The utility's implementation contractor will work closely with UPPCO to identify and conduct face-to-face meetings with key end-use customers to recruit their participation. The contractor will target decision makers within the customer's organization including: energy managers, facility managers, financial and operations managers, chief engineer and facility/property managers, maintenance supervisors, and building operators. Energy assessments will be offered to eligible customers to further encourage participation. • Outreach to key influencers. The implementation contractor's energy advisor(s) will work to generate awareness of the program through presentations and seminars with appropriate trade associations (ASHRAE, BOMA, school administrators, etc.). • Provide website presence. The program will be comprehensively outlined on the utility website. Customers and market providers will be able to download incentive applications and review program requirements via an online portal.
EM&V Requirements	The utility's implementation contractor will be responsible for implementing the following types of measurement and verification activities to facilitate the utility's third-party evaluation work:

	<ul style="list-style-type: none">• Collect and track all customers, measure installations, and incentive data.• Custom projects will be considered on a case-by-case basis; product performance information will be requested from the contractor or manufacturer and efficiency will be verified by a qualified engineer.• Provide engineering support to identify and analyze the cost-effectiveness and energy saving of each project. The energy advisor will work with the customer and/or market provider to complete custom engineering calculations that assess the energy savings potential, payback horizon, project eligibility, and incentive amount. If the project is deemed eligible, the advisor will assist the customer or market provider in completing a custom incentive grant application.• For projects with incentives over \$5,000 the evaluation contractor will review the engineering calculations for accuracy to assure that the efficiency savings are real.• Conduct on-site inspections of all installations to verify that the specified equipment has been installed and is operating as outlined in the grant application. Any inconsistencies will be researched and the resolution recorded.									
<i>Estimated Participation</i>	<table><tr><th colspan="3">Estimated Participation</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>30</td><td>31</td><td></td></tr></table>	Estimated Participation			2018	2019		30	31	
Estimated Participation										
2018	2019									
30	31									
<i>Estimated Budget</i>	<table><tr><th colspan="3">Annual Budgets</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>\$528,747</td><td>\$557,873</td><td></td></tr></table>	Annual Budgets			2018	2019		\$528,747	\$557,873	
Annual Budgets										
2018	2019									
\$528,747	\$557,873									
<i>Savings Targets</i>	<table><tr><th colspan="3">Energy Savings (Net Annual kWh)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>2,430,000</td><td>2,520,000</td><td></td></tr></table>	Energy Savings (Net Annual kWh)			2018	2019		2,430,000	2,520,000	
Energy Savings (Net Annual kWh)										
2018	2019									
2,430,000	2,520,000									

Program Element	Small Business Direct Install											
Objective	The primary objective of the Small Business Direct Install (SBDI) program is to install cost effective energy efficient measures in business customers' facilities that would not install these measures without the support of the program.											
Target Market	Small business customers, who have an annual energy consumption of 200 kW or less, are eligible to participate in the SBDI program. The program will target hard-to-reach customers.											
Program Duration	Ongoing element of the program portfolio.											
Program Description	The utility is interested in providing energy efficiency services to its small hard-to-reach business customers. The SBDI program will provide the direct installation of energy efficiency measures during a walk-through assessment. The program will offer free or subsidized installation of lighting upgrades, setback thermostats, refrigeration lighting and gaskets and ECM motors for coolers and freezers. Additional incentives will be offered for larger measures to encourage installation.											
Eligible Measures	Eligible measures are listed in Table 1.											
Implementation Strategy	Outreach to targeted customers. In coordination with other EWR programs, the implementation contractor(s) will personally contact decision makers within the targeted customer sectors.											
Marketing Strategy	In coordination with other EWR programs, the SBDI program will be marketed directly to targeted small business customers based on size and location. Direct marketing outreach will occur through local meetings and direct customer visits.											
EM&V Requirements	The utility's implementation contractor(s) will be responsible for tracking the qualifying direct install measure installations and additional rebated measure installations to facilitate the utility's third-party evaluation work: <ul style="list-style-type: none">Collect and track all customers, measure installations, and incentive data.Field verifications will occur on 10% of the installations to verify installation and correct application.											
Estimated Participation	<table><tr><th colspan="3">Estimated Participation (in Units of Installed Measures)</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>2,258</td><td>2,446</td><td></td></tr></table>			Estimated Participation (in Units of Installed Measures)			2018	2019		2,258	2,446	
Estimated Participation (in Units of Installed Measures)												
2018	2019											
2,258	2,446											
Estimated Budget	<table><tr><th colspan="3">Annual Budgets</th></tr><tr><th>2018</th><th>2019</th><th></th></tr><tr><td>\$90,767</td><td>\$97,389</td><td></td></tr></table>			Annual Budgets			2018	2019		\$90,767	\$97,389	
Annual Budgets												
2018	2019											
\$90,767	\$97,389											

<i>Savings Targets</i>			
	Energy Savings (Net Annual kWh)		
	2018	2019	
	548,569	565,283	

TABLE 1 – ELIGIBLE MEASURES

Measure eligibility was determined based on many factors. These included MEMD incremental cost and energy savings data, incentives, implementation costs and several utility supply factors. During the EWR Plan, measures may be added or removed based on market response, technology availability, changes to the MEMD data and changes in efficiency standards. Other measures may become eligible pending engineering review of cost-effectiveness analysis.

Residential Measures	
Low Income	
LI LED Lighting replace 60W A	
LI Refrigerators ENERGY STAR	
LI Infiltration reduction - 10% Electric Heat	
LI Attic Insulation - Electric Heat	
LI T8 4' 4L to 4L 4' LED Fixture	
LI T12 4' 4L to 4L 4' LED Fixture	
LI ECM Heating Water Circulator Pump	
Energy Star	
LED Lighting replace 40W A	
LED Lighting replace 60W A	
LED Lighting replace 75W A	
LED Lighting replace 100W A	
LED fixtures downlights	
LED Flood PAR	
ENERGY STAR Dehumidifier	
ENERGY STAR Air Purifier	
Clothes washers	
Clothes dryers	
Ceiling Fans	
TV's	
Home Performance	
Low Flow Bathroom Faucet Aerators - 1.0 gpm electric water heater	
Low Flow Kitchen Faucet Aerators - 1.5 gpm electric water heater	
Low Flow Showerheads 1.0 gpm electric water heater	
Pipe Wrap R3 - electric water heater	
Programmable Thermostats Tier 3	
Setback thermostat - moderate setback	
LED Night Light	
LED Replacing A-line 29W	
LED Globe	
LED Candelabra	
Outdoor LED PAR-Flood	

Shower Start 1.5 gpm electric water heater
Shower Start with Shower Head 1.5 gpm electric water heater
ECM Furnace
Air Source Heat Pump (ASHP)
Split System Central Air Conditioner (CAC)
Minisplit Heat Pump
Electric Water Heater EF 93plus
Heat Pump Water Heaters
ECM Heating Water Circulator Pump, lt 500W
Room AC
Ground Source Heat Pump (GSHP)

Appliance Recycling*

Refrigerators
Freezers
Room Air Conditioners
Dehumidifiers

*Units must be operational at time of pick up

Commercial Measures Prescriptive

Delamping T12 4ft
HPT8 4ft 1 lamp, T12 to HPT8
HPT8 4ft 2 lamp, T12 to HPT8
HPT8 4ft 3 lamp, T12 to HPT8
HPT8 4ft 4 lamp, T12 to HPT8
LW HPT8 4ft 4 lamp (T8-- HPT8)
Low Watt T8 4' 1 lamp (T12 -- HPT8)
Low Watt T8 4' 2 lamp (T12 -- HPT8)
Low Watt T8 4' 3 lamp (T12 -- HPT8)
Low Watt T8 4' 4 lamp (T12 -- HPT8)
1L 2' LED Tube Replacing T8 1L 2' Lamp
1L 3' LED Tube replacing T12 1L 3' Lamp
1L 3' LED Tube replacing T8 1L 3' Lamp
1L 4' LED Tube Replacing T12 1L 4' Lamp
1L 4' LED Tube Replacing T8 1L 4' Lamp
2L 4' LED Tube Replacing T8 1L 8' Lamp
1x4 LED Troffer or Retrofit (T8 -- LED)
2x2 LED Troffer or Retrofit (T8 -- LED)
2x4 LED Troffer or Retrofit (T8 -- LED)
Occupancy Sensors under 500 W
Occupancy Sensors over 500 W
Central Lighting Control
Daylight Sensor controls
High-Bay Lighting - Interior Fluorescent
High-Bay Lighting - Interior LED
Low Bay Lighting - Interior LED
Exterior Lighting HID to LED

LED Downlight
LED Lamps MR16
LED Exit Signs Electronic Fixtures
VFD Process Pumping
VFD Process Fans
Vending Equipment Controller
ENERGY STAR Commercial Solid Door Refrigerators
ENERGY STAR Commercial Solid Door Freezers
ENERGY STAR Steam Cookers
ENERGY STAR Fryers
Pre Rinse Sprayers
Automatic Door Closers for Refrigerated Walk-in Coolers-Freezers
Reach-in Refrigerated display case door retrofit for Medium Temp
Reach-in Refrigerated display case door retrofit for Low Temp
Engineered Nozzles Compressed Air
Economizer
GSHP
Night Covers
ECM Case Motors
ECM Cooler and Freezer Motors - ECM replacing PSC
ECM Cooler and Freezer Motors - ECM replacing SP
Setback-Setup
VFD HVAC Fan
VFD HVAC Pump
Energy Management Systems
Infrared Heater
Anti Sweat Heater Control
Floating Head Pressure Control
Chilled Water Reset
LED Refrigerator Case Lighting
Strip Curtains - Cooler
Strip Curtains - Freezer
Door Gaskets - Cooler and Freezer
LED Replacing A-line 50-80W
LED Replacing A-line 80-100W
LED lamp PAR
LED Replacing CFL PAR,BR,R lamp
ECM motors on furnaces
High Volume Low Speed Fans
Automatic High Speed Doors - between freezer and cooler
Automatic High Speed Doors - between freezer and dock
School - Setback with no AC
Air-Cooled Chiller
HVAC Occ Sensor
Enthalpy Economizer
Compressed Air Audits & Leak Repair
Chiller Tuneup

Small Business Direct Install
1L 2' LED Tube Replacing T12 1L 2' Lamp
1L 2' LED Tube Replacing T8 1L 2' Lamp
1L 3' LED Tube replacing T12 1L 3' Lamp
1L 3' LED Tube replacing T8 1L 3' Lamp
1L 4' LED Tube Replacing T12 1L 4' Lamp
1L 4' LED Tube Replacing T8 1L 4' Lamp
2L 4' LED Tube Replacing T8 1L 8' Lamp
1x4 LED Troffer or Retrofit (T8 -- LED)
2x2 LED Troffer or Retrofit (T8 -- LED)
2x4 LED Troffer or Retrofit (T8 -- LED)
Occupancy Sensors
Pre Rinse Sprayers
LED Downlight
LED Lamps MR16
LED Exit Signs Electronic Fixtures
Automatic Door Closers for Refrigerated Walk-in Coolers-Freezers
Reach-in Refrigerated display case door retrofit for Medium Temp
Reach-in Refrigerated display case door retrofit for Low Temp
ECM Case Motors
ECM Cooler and Freezer Motors - ECM replacing PSC
ECM Cooler and Freezer Motors - ECM replacing SP
LED Refrigerator Case Lighting
Occupancy Sensors for LED Refrigerator Lighting
Strip Curtains - Cooler
Strip Curtains - Freezer
Door Gaskets - Cooler and Freezer
LED Replacing A-line 50-80W
LED Replacing A-line 80-100W
LED lamp PAR
LED Candelabra
LED Globe
LED Replacing CFL PAR,BR,R lamp
LED Replacing A-line 40W Equivalent (CFL -- LED)
LED Replacing A-line 60W Equivalent (CFL -- LED)
LED Replacing A-line 75W Equivalent (CFL -- LED)
LED Replacing A-line 100W Equivalent (CFL -- LED)
LED Globe replacing CFL
ECM motors on furnaces

Upper Peninsula Power Company (UPPCO)
2018-2019 Energy Waste Reduction (EWR) Plan
EWR Revenue Requirement Development

Case No. U-18265
Attachment 2

Rate Class	Actual 2016 Revenues	Allocation Factor	2018 Revenue Requirement	2019 Revenue Requirement	Total 2018-19 Revenue Requirement
<u>Residential</u>					
A-1	\$ 49,456,564	0.83271501	\$ 826,454	\$ 798,933	\$ 1,625,386
A-2	4,082,385	0.06873634	\$ 68,220	\$ 65,948	\$ 134,167
AH-1	5,852,996	0.09854865	\$ 97,808	\$ 94,551	\$ 192,358
Total Res	59,391,945		992,481	959,431	1,951,912
<u>Small Commercial</u>					
C-1	11,579,989	0.21761731	\$ 250,583	\$ 261,798	512,381
H-1	1,159,648	0.02179273	\$ 25,094	\$ 26,217	51,311
Total Small	12,739,637		275,677	288,015	563,692
<u>Medium Commercial</u>					
P-1	12,351,678	0.23211931	\$ 267,282	\$ 279,244	546,526
Total Medium	12,351,678		267,282	279,244	546,526
<u>Large C&I</u>					
CPI	-	-	\$ -	\$ -	-
CPRRMI	-	-	\$ -	\$ -	-
RTMPMI	7,653,644	0.14383135	\$ 165,620	\$ 173,032	338,652
Special Contract	963,246	0.01810183	\$ 20,844	\$ 21,777	42,621
CPU	14,726,440	0.27674708	\$ 318,670	\$ 332,933	651,603
WP-3	2,574,650	0.04838419	\$ 55,714	\$ 58,207	113,921
Total Large C&I	25,917,979		560,847	585,949	1,146,796
<u>Lighting</u>					
SL	1,713,371	0.03219857	\$ 37,076	\$ 38,736	75,812
Z	489,962	0.00920763	\$ 10,602	\$ 11,077	21,679
Total Lighting	2,203,333		47,679	49,813	97,491
Total C&I	53,212,628		\$ 1,151,485	\$ 1,203,021	
Grand Total	\$ 112,604,572		\$ 2,143,966	\$ 2,162,452	\$ 4,306,418

Rate Class	2018 Revenue Requirement	2019 Revenue Requirement	2018-19 Total Revenue Requirement	Forecasted Volumes in kWh 2018	Forecasted Volumes in kWh 2019	Forecasted Volumes in kWh Total	2016 Actual Surcharge	2018-19 Proposed Surcharge	Percent Change
Residential									
A-1	\$ 826,454	\$ 798,933	\$ 1,625,386	202,406,913	200,389,720	402,796,632			
A-2	\$ 68,220	\$ 65,948	\$ 134,167	17,363,900	17,342,344	34,706,244			
AH-1	\$ 97,808	\$ 94,551	\$ 192,358	31,387,822	31,090,818	62,478,640			
Subtotal	992,481	959,431	1,951,912	251,158,635	248,822,882	499,981,517			
2017 Res Carry-over	(275,000)	(275,000)	(550,000)						
Total	717,481	684,431	1,401,912				0.0048	0.0028	-41.67%
Small Commercial									
C-1	\$ 250,583	\$ 261,798	512,381	4,992	4,992	9,984			
H-1	\$ 25,094	\$ 26,217	51,311	226	226	452			
Subtotal	275,677	288,015	563,692	5,218	5,218	10,436			
2017 C&I Carry-over	(65,838)	(65,838)	(131,676)						
Total	209,839	222,178	432,017				4.15	3.45	-16.87%
Medium Commercial									
P-1	\$ 267,282	\$ 279,244	546,526	519	519	1,038			
Subtotal	267,282	279,244	546,526	519	519	1,038			
2017 C&I Carry-over	(63,833)	(63,833)	(127,666)						
Total	203,449	215,412	418,861				41.89	33.63	-19.72%
Large C&I									
CPI	\$ -	\$ -	-	0	0	0			
CPRMI	\$ -	\$ -	-	0	0	0			
RTM/PMI	\$ 165,620	\$ 173,032	338,652	1	1	2			
Special Contract	\$ 20,844	\$ 21,777	42,621	1	1	2			
CPU	\$ 318,670	\$ 332,933	651,603	56	56	112			
WP-3	\$ 55,714	\$ 58,207	113,921	2	2	4			
Subtotal	560,847	585,949	1,146,796	60	60	120			
2017 C&I Carry-over	(133,943)	(133,943)	(267,885)						
Total	426,905	452,006	878,911				630.54	610.35	-3.20%
Lighting									
SL	\$ 37,076	\$ 38,736	75,812	7,371	7,371	14,742			
Z	\$ 10,602	\$ 11,077	21,679	1,815	1,815	3,630			
Subtotal	47,679	49,813	97,491	9,186	9,186	18,372			
2017 C&I Carry-over	(11,387)	(11,387)	(22,773)						
Total	36,292	38,426	74,718				0.43	0.34	-20.93%
TOTAL 2017 C&I Carry-over	(275,000)	(275,000)	(550,000)						
Grand Total	\$ 1,593,966	\$ 1,612,452	\$ 3,206,418						

Savings and Cost Summary - UPPCO 2018-19 Energy Waste Reduction Plan

Budget and Savings Targets	2018			2019		
	First Year Savings	Lifetime Savings	Program Budget	First Year Savings	Lifetime Savings	Program Budget
Residential						
Savings Goals/Budget Caps	2,601,161	30,641,673	\$992,481	2,601,161	30,641,673	\$959,431
Current Values for this Portfolio	2,558,865	27,151,030	\$717,481	2,403,635	25,909,192	\$684,431
Variance	-42,296	(3,490,643)	(\$275,000)	-197,526	(4,732,481)	(\$275,000)
% of Target	98%	89%	72%	92%	85%	71%
Commercial						
Savings Goals/Budget Caps	5,029,299	59,245,146	\$1,151,485	5,029,299	59,245,146	\$1,203,021
Current Values for this Portfolio	5,903,371	66,227,815	\$876,485	6,010,539	67,989,438	\$928,021
Variance	874,071	6,982,669	(\$275,000)	981,240	8,744,292	(\$275,000)
Variance %	117%	112%	76%	120%	115%	77%
Total						
Savings Goals/Budget Caps	7,630,460	89,886,819	\$2,143,966	7,630,460	89,886,819	\$2,162,452
Current Values for this Portfolio	8,462,235	93,378,845	\$1,593,966	8,414,174	93,898,629	\$1,612,452
Variance	831,775	3,492,026	(\$550,000)	783,714	4,011,810	(\$550,000)
Variance %	111%	104%	74%	110%	104%	75%

Energy Waste Reduction Portfolio	2018			2019		
	First Year Savings	Lifetime Savings	Program Budget	First Year Savings	Lifetime Savings	Program Budget
Residential						
Low Income	199,782	3,384,594	\$267,320	199,782	3,384,594	\$272,666
ENERGY STAR® Lighting and Appliance	852,862	12,472,921	\$144,958	852,862	12,472,921	\$147,858
Home Performance	513,496	6,269,672	\$244,730	513,496	6,269,672	\$249,624
Home Energy Reports	453,600	453,600	\$41,250	453,600	453,600	\$41,250
Appliance Recycling	310,460	2,483,676	\$76,325	155,230	1,241,838	\$32,625
Pilot Programs	142,916	2,000,818	\$22,850	142,916	2,000,818	\$23,507
Educational Services	85,749	85,749	\$13,710	85,749	85,749	\$14,104
Evaluation			\$70,891			\$68,531
UPPCO Administration			\$110,446			\$109,265
Carry-forward			(\$275,000)			(\$275,000)
Subtotal - Residential Solutions	2,558,865	27,151,030	\$717,481	2,403,635	25,909,192	\$684,431
Commercial & Industrial						
Prescriptive Program	2,497,673	20,943,593	\$257,441	2,498,128	21,143,692	\$264,299
Custom Program	2,430,000	36,450,000	\$528,747	2,520,000	37,800,000	\$557,873
Small Business	548,569	4,936,677	\$90,767	565,283	5,148,201	\$97,389
Pilot Programs	266,955	3,737,372	\$47,598	266,955	3,737,372	\$49,728
Educational Services	160,173	160,173	\$28,559	160,173	160,173	\$29,837
Evaluation			\$82,249			\$85,930
UPPCO Administration			\$116,124			\$117,965
Carry-forward			(\$275,000)			(\$275,000)
Subtotal - Commercial & Industrial Solutions	5,903,371	66,227,815	\$876,485	6,010,539	67,989,438	\$928,021
Total Program Portfolio	8,462,235	93,378,845	\$1,593,966	8,414,174	93,898,629	\$1,612,452

**Energy Waste Reduction Program
Recommended Financial Incentive Structure for Electric**

Component 1				Component 2			
Annual 1st Year Savings Goal (kWh) ^{1,5}				Annual Lifetime Savings Goal (kWh) (Weighed 60%) ²	Annual Low Income Spend (\$) (Weighed 50%) ³		
Goal	7,630,460			89,886,819	\$ 215,321	10%	Budget \$⁴
2018	8,462,235			93,378,845	\$ 267,320		\$2,143,966
2019	8,414,174			93,898,629	\$ 272,666		\$2,162,452
2018 Incentive⁶	111%	16.06%		104%	9.24%	12%	8.73%
2019 Incentive⁶	110%	15.96%		104%	9.24%	13%	9.36%
Tier 1	1.00%	100%	15.00%	100%	9.00%	10.00%	7.50%
	1.01%	101%	15.10%	101%	9.06%	10.08%	7.55%
	1.02%	102%	15.19%	102%	9.12%	10.16%	7.60%
	1.03%	103%	15.29%	103%	9.18%	10.24%	7.65%
	1.04%	104%	15.38%	104%	9.24%	10.31%	7.70%
	1.05%	105%	15.48%	105%	9.29%	10.39%	7.75%
	1.06%	106%	15.58%	106%	9.35%	10.47%	7.79%
	1.07%	107%	15.67%	107%	9.41%	10.55%	7.84%
	1.08%	108%	15.77%	108%	9.47%	10.63%	7.89%
	1.09%	109%	15.87%	109%	9.53%	10.71%	7.94%
	1.10%	110%	15.96%	110%	9.59%	10.78%	7.99%
	1.11%	111%	16.06%	111%	9.65%	10.86%	8.04%
	1.12%	112%	16.15%	112%	9.71%	10.94%	8.09%
	1.13%	113%	16.25%	113%	9.76%	11.02%	8.14%
	1.14%	114%	16.35%	114%	9.82%	11.10%	8.19%
	1.15%	115%	16.44%	115%	9.88%	11.18%	8.24%
	1.16%	116%	16.54%	116%	9.94%	11.25%	8.28%
	1.17%	117%	16.63%	117%	10.00%	11.33%	8.33%
	1.18%	118%	16.73%	118%	10.06%	11.41%	8.38%
	1.19%	119%	16.83%	119%	10.12%	11.49%	8.43%
	1.20%	120%	16.92%	120%	10.18%	11.57%	8.48%
	1.21%	121%	17.02%	121%	10.24%	11.65%	8.53%
	1.22%	122%	17.12%	122%	10.29%	11.73%	8.58%
	1.23%	123%	17.21%	123%	10.35%	11.80%	8.63%
	1.24%	124%	17.31%	124%	10.41%	11.88%	8.68%
	1.25%	125%	17.40%	125%	10.47%	11.96%	8.73%
Tier 2	1.26%	126%	17.50%	126%	10.53%	12.04%	8.77%
	1.27%	127%	17.60%	127%	10.59%	12.12%	8.82%
	1.28%	128%	17.70%	128%	10.65%	12.20%	8.87%
	1.29%	129%	17.80%	129%	10.71%	12.27%	8.92%
	1.30%	130%	17.90%	130%	10.76%	12.35%	8.97%
	1.31%	131%	18.00%	131%	10.82%	12.43%	9.02%
	1.32%	132%	18.10%	132%	10.88%	12.51%	9.07%
	1.33%	133%	18.20%	133%	10.94%	12.59%	9.12%
	1.34%	134%	18.30%	134%	11.00%	12.67%	9.17%
	1.35%	135%	18.40%	135%	11.06%	12.75%	9.22%
	1.36%	136%	18.50%	136%	11.12%	12.82%	9.26%
	1.37%	137%	18.60%	137%	11.18%	12.90%	9.31%
	1.38%	138%	18.70%	138%	11.24%	12.98%	9.36%
	1.39%	139%	18.80%	139%	11.29%	13.06%	9.41%
	1.40%	140%	18.90%	140%	11.35%	13.14%	9.46%
	1.41%	141%	19.00%	141%	11.41%	13.22%	9.51%
	1.42%	142%	19.10%	142%	11.47%	13.29%	9.56%
	1.43%	143%	19.20%	143%	11.53%	13.37%	9.61%
	1.44%	144%	19.30%	144%	11.59%	13.45%	9.66%
	1.45%	145%	19.40%	145%	11.65%	13.53%	9.71%
	1.46%	146%	19.50%	146%	11.71%	13.61%	9.75%
	1.47%	147%	19.60%	147%	11.76%	13.69%	9.80%
	1.48%	148%	19.70%	148%	11.82%	13.76%	9.85%
	1.49%	149%	19.80%	149%	11.88%	13.84%	9.90%
	1.50%	150%	19.90%	150%	11.94%	13.92%	9.95%
Tier 3	1.51%	151%	20.00%	151%	12.00%	14.00%	10.00%
	1.52%	152%	20.00%	152%	12.00%	14.08%	10.00%
	1.53%	153%	20.00%	153%	12.00%	14.16%	10.00%
	1.54%	154%	20.00%	154%	12.00%	14.24%	10.00%
	1.55%	155%	20.00%	155%	12.00%	14.31%	10.00%

- (1) 1st Year Savings Goal calculated using prior 3-year retail sales average.
- (2) Lifetime Savings Goal is 1st Year Savings Goal multiplied by Average Measure Life of 11.78.
- (3) Low Income Spend Goal is 10% of Budget and 150%target equal to 14% of Budget
- (4) UPPCO's EWR Plan Costs
- (5) 2018 and 2019 Goals are anticipated results of the EWR Plan.
- (6) 2018 and 2019 Incentives are for illustrative purposes based on anticipated energy savings and spend.

UPPER PENINSULA POWER COMPANY

MPSC Vol No 8-ELECTRIC

73.00

~~10th-11th~~ Rev. Sheet No. D-

73.00

Replaces ~~9th-10th~~ Rev. Sheet No. D-**D2. Energy ~~Optimization-Waste Reduction~~ (EOEWR)**
EOEWR**Energy ~~Optimization-Waste Reduction~~ Surcharge**

This surcharge permits, pursuant to Section 91(4) of 2008 Pa 295 and as amended in 2016 PA 342, the adjustment of distribution rates, via the application of an Energy ~~Optimization-Waste Reduction~~ Surcharge, to allow recovery of the energy ~~optimization-Waste Reduction~~ alternative compliance payment made by the Company in compliance with Section 91(1) of 2008 Pa 295 and as amended in 2016 PA 342.

All customer bills subject to the provisions of this tariff, including any bills rendered under special contract, shall be adjusted by the Energy ~~Optimization-Waste Reduction~~ Surcharge per kWh or Customer as follows:

<u>Tariff</u>	<u>Energy Charges</u>
A-1	\$0.0048 <u>0.0028</u> /kWh
A-2	\$0.0048 <u>0.0028</u> /kWh
AH-1	\$0.0048 <u>0.0028</u> /kWh

<u>Tariff</u>	<u>Per Month/Meter</u>	<u>Per Day/Meter</u>
C-1	\$4.15 <u>3.45</u>	\$0.1364 <u>0.1134</u>
H-1	\$4.15 <u>3.45</u>	\$0.1364 <u>0.1134</u>
P-1	\$41.89 <u>33.63</u>	\$1.3772 <u>1.1056</u>
Cp-U	\$630.54 <u>610.35</u>	\$20.7301 <u>20.0663</u>
WP-3	\$630.54 <u>610.35</u>	\$20.7301 <u>20.0663</u>
CP-RR	\$630.54 <u>610.35</u>	\$20.7301 <u>20.0663</u>
RTMP	\$630.54 <u>610.35</u>	\$20.7301 <u>20.0663</u>
RTMP-D	\$630.54 <u>610.35</u>	\$20.7301 <u>20.0663</u>
Special Contract	\$630.54 <u>610.35</u>	\$20.7301 <u>20.0663</u>
SL-3	\$0.430 <u>0.34</u>	\$0.0141 <u>0.0112</u>
SL-5	\$0.430 <u>0.34</u>	\$0.0141 <u>0.0112</u>
SL-6	\$0.430 <u>0.34</u>	\$0.0141 <u>0.0112</u>
Z-3	\$0.430 <u>0.34</u>	\$0.0141 <u>0.0112</u>
Z-4	\$0.430 <u>0.34</u>	\$0.0141 <u>0.0112</u>

Issued: ~~10-13-16~~ xx-xx-xx
Service

By ~~S-C Devon~~ G Haehnel
~~10-1-16~~ xx-xx-xx

Director of Regulatory Affairs
Marquette, Michigan

Effective for

On and After:

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Dated: ~~9-23-16~~ xx-xx-xx

In Case No: U-~~18017~~18265